

KCC 4788 (K-C 15,397)
PATENT

REMARKS

Prior to this amendment, claims 1 to 38 were pending. Claims 7-8, 18-19, 24-25, 29-30, and 36-37 are canceled, and claims 1, 14, 21, 28, and 32 are amended herein. Upon entry of this Amendment A, claims 1-6, 9-17, 20-23, 26-28, 31-35, and 38 will be pending. Support for the amendments to claims 1, 14, 21, 28, and 32 can be found on page 5, line 30 to page 6, line 2, which identify glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine as osmoregulation protectors.

1. Rejection of Claims Under 35 U.S.C. §102(b) (12)

Reconsideration is requested of the rejection of claims 1-3, 7-11, 14, 18-20, 28-33, and 36-38 under 35 U.S.C. §102(b) as being anticipated by Mandell et al. (WO 00/66187).

Claim 1, as amended herein, is directed to an absorbent product for minimizing the amount of ammonia produced by bacteria. The absorbent product comprises an osmoregulation protector present in an amount capable of interacting with bacteria such that the production of ammonia by the bacteria is minimized. The osmoregulation protector is selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine.

Claim 14, as amended herein, is directed to an adult incontinence garment for minimizing the amount of ammonia produced by bacteria contained in urine voided by a wearer. The adult incontinence garment comprises an osmoregulation protector present in an amount capable of interacting with the bacteria contained in the urine such that the production of ammonia by the bacteria is minimized. The osmoregulation protector is selected

KCC 4788 (K-C 15,397)
PATENT

from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine.

Claim 28, as amended herein, is directed to a process for minimizing the amount of ammonia produced by bacteria in voided urine. The process comprises contacting the voided urine with an amount of osmoregulation protector sufficient to interact with the bacteria in the voided urine such that the production of ammonia by the bacteria is minimized. The osmoregulation protector is selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine.

Claim 32, as amended herein, is also directed to a process for minimizing the amount of ammonia produced by bacteria in voided urine. The process comprises introducing an osmoregulation protector into an absorbent product to be worn by a wearer next to the skin to absorb the voided urine, and contacting the absorbent product and osmoregulation protector with urine voided by the wearer such that the osmoregulation protector can interact with bacteria in the urine and decrease the amount of ammonia produced by the bacteria. The osmoregulation protector is present in the absorbent product in an amount sufficient to interact with bacteria in the voided urine such that the production of ammonia by the bacteria is minimized, and is selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine.

Mandell et al. disclose an odor controlling superabsorbent polymer (SAP) having an odor controlling compound homogeneously

KCC 4788 (K-C 15,397)
PATENT

distributed throughout the SAP.¹ The SAP may be used in sanitary goods, paper diapers, disposable diapers, and similar hygienic goods.² The odor controlling compound may be physically dispersed throughout the SAP particle, or bound or grafted to the polymer, or both.³ The odor controlling compounds of Mandell et al. include cyclodextrin compounds, triclosan, amphoteric surfactants, water-insoluble phosphates, and mixtures thereof.⁴ Within a long laundry list of amphoteric surfactants, Mandell et al. disclose 15 or so betaines as suitable additives. Mandell et al. theorize that the odor controlling compounds may control odor by absorbing ammonia, by slowing and/or preventing the enzymatic action of urease, which in turn slows and/or prevents the formation of malodorous ammonia, and/or by killing microorganisms.⁵

Significantly, Mandell et al. fail to disclose that glycine betaine, proline betaine, trigonelline, carnitine or arsenobetaine can be used in an absorbent article to control ammonia production. This is a requirement of the independent claims, and is a significant aspect of applicants' invention. Although the reference does disclose betaines generally, and 15 or so betaines specifically, there is no disclosure of the specific betaines required by the independent claims as amended herein. Additionally, none of the 19 or so working examples of

¹ WO 00/66187, at p. 5, ln. 8-13.

² *Id.* at p. 29, ln. 1-4.

³ *Id.* at p. 27, ln. 1-6.

⁴ *Id.* at p. 5, ln. 22-24.

⁵ *Id.* at p. 15, ln. 12-16.

KCC 4788 (K-C 15,397)
PATENT

Mandell et al. disclose the use of any betaine compound as an odor controlling compound, or otherwise.

MPEP § 2131 states that a claim is anticipated under 35 U.S.C. §102 only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.

As indicated above, amended claims 1, 14, 28, and 32 all require that the osmoregulation protector be selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine. As previously indicated, Mandell et al. disclose amphoteric surfactants, including betaines, as odor controlling compounds, but do not specifically list glycine betaine, proline betaine, trigonelline, carnitine, or arsenobetaine as amphoteric surfactants that may be used to control odor. Consequently, Mandell et al. cannot be said to set forth each and every element of claim 1, 14, 28, or 32. Thus, claims 1, 14, 28, and 32 are novel over the cited reference.

Claims 2-3 and 9-11 are dependent on claim 1; claim 20 is dependent on claim 14; claim 31 is dependent on claim 28; and claims 33 and 38 are dependent on claim 32. These claims are patentable for the same reasons as the independent claim from which they depend. Further, claims 2-3, 9-11, 20, 31, 33, and 38 are patentable for the additional elements they require.

2. Rejection of Claims Under 35 U.S.C. § 103(a) (¶4)

Reconsideration is requested of the rejection of claims 4-5, 15-17, 27, and 34-35 under 35 U.S.C. § 103(a) as being unpatentable over Mandell et al.

KCC 4788 (K-C 15,397)
PATENT

Claims 4-5 depend from claim 1. Claims 15-17 depend from claim 14. Claims 34-35 depend from claim 32. As discussed above, independent claims 1, 14, and 32 are patentable and, as such, dependent claims 4-5, 15-17, and 34-35 are patentable for the same reasons as for the independent claims from which they depend, as well as for the additional elements they require.

Claim 27 is directed to an adult incontinence garment for minimizing the amount of ammonia produced by bacteria contained in urine voided by a wearer. The garment comprises glycine betaine in an amount of from about 0.001 to about 2 milligrams/gram of garment.

As previously discussed, Mandell et al. do not specifically disclose glycine betaine, and thus can not be said to teach or suggest all the limitations of claim 27. Thus claim 27, which is similar to claim 1, is patentable over Mandell et al.

3. Rejection of Claims Under 35 U.S.C. §103(a) (¶5)

Reconsideration is requested of the rejection of claims 12-13 under 35 U.S.C. §103(a) as unpatentable over Mandell et al., and further in view of Lorenzi, et al. (U.S. Patent No. 6,217,889).

Mandell et al. is discussed above.

Lorenzi, et al. disclose disposable personal care articles suitable for cleansing. The articles may comprise a water insoluble substrate, creped nonwoven layer, cleansing component, and therapeutic benefit component. The cleansing component may include amphoteric lathering surfactants, such as betaines.⁶ The articles of Lorenzi, et al. may also comprise a therapeutic

⁶ U.S. Patent No. 6,217,889, at c. 15, ln. 3.

KCC 4788 (K-C 15,397)
PATENT

benefit component, such as structured conditioning agents (e.g. liposomes).⁷

Claims 12-13 depend from claim 1 and are patentable for the same reasons as claim 1 set forth above, as well as for the additional elements they require.

4. Rejection of Claims Under 35 U.S.C. §102(b) (¶6)

Reconsideration is requested of the rejection of claim 21 and claims 24-26 under 35 U.S.C. §102(b) as being anticipated by Romano, et al. (WO 97/91092).

Claim 21, as amended herein, is directed to a wet wipe for minimizing the amount of ammonia produced by bacteria. The wet wipe comprises a liquid solution and a basesheet. The liquid solution comprises an osmoregulation protector selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine. The osmoregulation protector is present in an amount capable of interacting with bacteria on or near the skin's surface such that the production of ammonia by the bacteria is minimized.

Romano, et al. disclose disinfecting compositions comprising a peroxygen bleach, a betaine or sulphobetaine surfactant, and an antimicrobial compound.⁸ Romano, et al. also disclose wipes impregnated with the liquid composition.⁹ Romano, et al. list several suitable betaines for use in their claimed

⁷ Id. at c. 24, ln. 11-15.

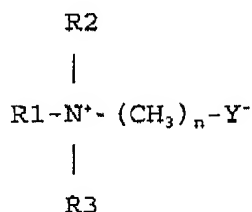
⁸ WO 97/91092, at p. 2, ln. 6-8.

⁹ Id. at p. 21, ln. 1-3.

KCC 4788 (K-C 15,397)
PATENT

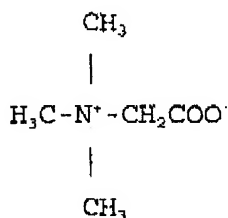
compositions,¹⁰ but do not specifically list glycine betaine, proline betaine, trigonelline, carnitine, or arsenobetaine.

As indicated above, the osmoregulation protector of amended claim 21 is selected from the group consisting of glycine betaine, proline betaine, trigonelline, carnitine, and arsenobetaine. The Office has asserted that Romano, et al. disclose a wet wipe which is impregnated with a solution comprising a glycine betaine. Romano, et al. indicate that their preferred betaine or sulphobetaine surfactants have the formula:



wherein the sum of R1, R2, and R3 radicals is from 14 to 24 carbon atoms.¹¹

In contrast, glycine betaine has the formula:



¹⁰ Id. at p. 7, ln. 30 to p. 8, ln. 23.

¹¹ Id. at p. 8, ln. 1-14.

KCC 4788 (K-C 15,397)
PATENT

The formula of Romano, et al. thus does not encompass glycine betaine since the sum of R1, R2, and R3 for glycine betaine would be 3 carbon atoms, as opposed to 14 to 24 carbon atoms, as required by Romano, et al. Clearly, Romano et al. contemplated much longer carbon groups.

Romano, et al. thus do not specifically disclose wipes comprising glycine betaine, proline betaine, trigonelline, carnitine, or arsenobetaine. Consequently, Romano, et al. can not be said to set forth each and every element of claim 21. Thus, claim 21 is novel over the cited reference.

Claim 26 is dependent on claim 21, and is thus patentable for the same reason as claim 21, as set forth above.

5. Rejection of Claims Under 35 U.S.C. §103(a) (¶7)

Reconsideration is requested of the rejection of claims 22-23 under 35 U.S.C. §103(a) as being unpatentable over Romano, et al.

Romano, et al. disclose wipes impregnated with a liquid disinfecting composition that may comprise a betaine or sulphobetaine surfactant. However, as previously discussed, Romano, et al. do not specifically disclose glycine betaine, proline betaine, trigonelline, carnitine, or arsenobetaine as suitable disinfecting surfactants.

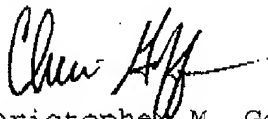
Claims 22-23 depend from claim 21 and are patentable for the same reasons as claim 21 set forth above, as well as for the additional elements they require.

KCC 4788 (K-C 15,397)
PATENT

CONCLUSION

In light of the foregoing, applicants respectfully request favorable reconsideration and allowance of all pending claims. The Commissioner is hereby authorized to charge any fee deficiency in connection with this response to Deposit Account Number 19-1345 in the name of Senniger, Powers, Leavitt & Roedel.

Respectfully Submitted,



Christopher M. Goff, Reg. No. 41,785
SENNIGER, POWERS, LEAVITT & ROEDEL
One Metropolitan Square, 16th Floor
St. Louis, Missouri 63102
314-231-5400

CMG/LJH/dmt

RECEIVED
CENTRAL FAX CENTER

OCT 22 2003

OFFICIAL